

CLAIMS:-

1. A rainscreen apparatus including:
 - a substantially rigid air barrier adapted for attachment to a building structure;
 - 5 a rainscreen panel adapted for attachment over the air barrier;
 - a spacing member adapted to provide a clearance space between the air barrier and the rainscreen panel; and
 - sealing means adapted to provide substantial pressure equalisation within the clearance space.
- 10 2. A rainscreen apparatus according to claim 1 including an air vent to atmosphere from said pressure equalised space to allow air pressure within said space to equalise with air pressure externally of said space.
3. A rainscreen apparatus according to claim 1 or claim 2 wherein said apparatus is suitable for use on building frames with studs placed at a predetermined interval
- 15 such that said apparatus resists water ingress under predetermined wind pressure.
4. A rainscreen apparatus according to claim 3 wherein said studs are placed at between approximately 400 and 610 mm centre to centre and said predetermined wind pressure is greater than approximately 1 kPa and less than approximately 4.5 kPa.
- 20 5. A rainscreen apparatus according to any one of the preceding claims wherein said rigid air barrier is comprised of any polymeric or cellulosic or cementitious material suitably reinforced to provide the degree of rigidity required to resist water ingress when incorporated into said rainscreen apparatus and exposed to a predetermined wind pressure according to a standardized wind test.
- 25 6. A rainscreen apparatus according to any one of the preceding claims wherein said rigid air barrier is in the form of a panel.
7. A rainscreen apparatus according to claim 6 wherein said air barrier panel is between approximately 2-15mm thick.
8. A rainscreen apparatus according to claim 6 or claim 7 wherein said air barrier
- 30 panel is between 5-7mm thick.
9. A rainscreen apparatus according to any one of claims 6 to 8 wherein said air barrier panel includes fibre cement, oriented strandboard, plywood, metal, expanded polymeric foam or a combination of these.

10. A rainscreen apparatus according to any one of claims 6 to 9 wherein said air barrier panel is substantially formed from fibre cement.
11. A rainscreen apparatus according to any one of claims 6 to 10 wherein said panel includes a sheet of polymeric or substantially water repellent cellulosic material attached to the exterior surface of the panel so as substantially to prevent water from passing therethrough.
12. A rainscreen apparatus according to any one of claims 6 to 10 wherein said air barrier panel has at least the exterior side treated with a material that repels water.
13. A rainscreen apparatus according to any one of claims 6 to 10 wherein said air barrier panel includes a water repellent material.
14. A rainscreen apparatus according to any one of claims 1 to 5 wherein said rigid air barrier is in the form of at least one thin sheet comprising a polymeric or substantially water repellent cellulosic material, said sheet having a relatively rigid reinforcing means attached thereto.
15. A rainscreen apparatus according to claim 14 wherein said sheet includes a polyolefin material having a relatively rigid reinforcing means including a mesh of fibreglass, metal or polymeric material laminated to at least one surface of said sheet.
16. A rainscreen apparatus according to claim 14 wherein said sheet includes a polyolefin material having a relatively rigid reinforcing means including a series of battens or the like laminated to at least one surface of said sheet.
17. A rainscreen apparatus according to any one of the preceding claims wherein said rainscreen panel includes a cementitious material, oriented strandboard, plywood, metal, polymeric foam or a combination of these.
18. A rainscreen apparatus according to any one of the preceding claims wherein said rainscreen panel is between approximately 2-11mm thick.
19. A rainscreen apparatus according to any one of the preceding claims wherein said rainscreen panel is between approximately 7-11mm thick.
20. A rainscreen apparatus according to any one of the preceding claims wherein said rainscreen panel is around 9mm thick.
21. A rainscreen apparatus according to any one of the preceding claims wherein said rainscreen panel is substantially formed from fibre cement.

22. A rainscreen apparatus according to any one of the claims 1 to 16 wherein said rainscreen panel is formed from an exterior cladding material.
23. A rainscreen air barrier joint seal for sealing a joint between at least two adjacent rigid air barrier of the rainscreen apparatus according to any one of claims 1 to 22, said seal including a sealing strip of a substantially resilient material having a first surface and a second surface opposite to said first surface, said first surface being adapted to contact said rigid air barriers, and at least one batten provided in use over said second surface of the seal strip, said batten being in contact with the second surface so as to maintain said first surface of the strip in contact with the region of said air barrier adjacent to said joint.
24. A rainscreen air barrier joint seal according to claim 23 wherein said first surface has an adhesive provided thereon.
25. A rainscreen air barrier joint seal according to claim 23 or claim 24 wherein said second surface has an adhesive provided thereon.
26. A rainscreen flashing including a first edge portion adapted to be located on or adjacent to a lower edge of said air barrier of said rainscreen apparatus according to any one of claims 1 to 22, a second edge portion adapted to be located on or adjacent to an upper region of said rainscreen panel provided below said air barrier, and a central portion which is contiguous with said first and second edge portions and is provided at a substantially obtuse angle to said first and second edge portions.
27. A rainscreen flashing according to claim 26 wherein said central portion slopes downwardly to allow water to drain over said central portion and exterior to said rainscreen panel.
28. A rainscreen vent for the rainscreen apparatus according to any one of claims 1 to 22 having a rigid air barrier and a rainscreen panel and a space therebetween, said vent including a first wall adapted for location on or adjacent to said air barrier, a second wall adapted to be located on or adjacent to an internal surface of said rainscreen panel, and a central portion connected between said first and second walls, said central portion having one or more apertures therein allowing liquid to drain from said space and also allowing ingress of air into said space.
29. A rainscreen seal construction including a batten for location on an air barrier of rainscreen apparatus according to claims 1 to 22, a sealing member having a base

and at least two lips projecting from said base, said lips being spaced from each other, one lip being adapted to make a substantially sealing contact with a rear surface of a first rainscreen panel, and the second lip being adapted to make a substantially sealing contact with the rear surface of a second rainscreen panel, said second panel being located adjacent to the first panel.

30. A method of constructing a rainscreen apparatus according to any one of claims 1 to 22, the method including the steps of:

attaching said rigid air barrier to an external side of building framing;

attaching one or more battens over an exterior surface of said rigid air barrier;

10 and

attaching said rainscreen panel over at least one of said battens.

31. A method of constructing a rainscreen apparatus according to claim 30 wherein said rigid air barrier is in the form of a panel.

32. A method of constructing a rainscreen apparatus according to claim 31 wherein said air barrier panel is between approximately 2-15mm thick.

33. A method of constructing a rainscreen apparatus according to claim 31 or claim 32 wherein said air barrier panel is between approximately 5-7mm thick.

34. A method of constructing a rainscreen apparatus according to any one of claims 31 to 33 wherein said air barrier panel includes fibre cement, oriented strandboard, plywood, metal, expanded polymeric foam or a combination of these.

35. A method of constructing a rainscreen apparatus according to any one of claims 31 to 34 wherein said air barrier panel is substantially formed from fibre cement.

36. A method of constructing the rainscreen apparatus according to any one of claims 30 to 35 wherein said rainscreen panel includes a cementitious material, oriented strandboard, plywood, metal, polymeric foam or a combination of these.

37. A method of constructing a rainscreen apparatus according to any one of claims 30 to 36 wherein said rainscreen panel is between approximately 2-11mm thick.

38. A method of constructing a rainscreen apparatus according to any one of claims 30 to 37 wherein said rainscreen panel is between approximately 7-11mm thick.

39. A method of constructing a rainscreen apparatus according to any one of claims 30 to 38 wherein said rainscreen panel is substantially 9mm thick.

40. A method of constructing a rainscreen apparatus according to any one of claims

30 to 39 wherein said rainscreen panel is substantially formed from fibre cement.

41. A method for constructing a rainscreen apparatus according to claims 1 to 22 including the steps of:

providing said rigid air barrier;

5 coating said air barrier with a water resistant material,

attaching one or more battens over an exterior surface of said air barrier;

fixing said rainscreen panel over said battens such that said rainscreen panel is spaced from said air barrier; and

10 coating the exterior surface of said rainscreen panel with a substantially water resistant material.

42. A method for constructing a rainscreen apparatus according to claim 41 wherein one or both of said rigid air barrier or said rainscreen panel is substantially formed from fibre reinforced cement.

43. A rainscreen apparatus substantially as herein described with reference to any
15 one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.

44. A rainscreen air barrier joint seal substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.

- 20 45. A rainscreen flashing substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.

46. A rainscreen vent substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings
25 and/or examples.

47. A rainscreen seal construction substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.

48. A method of constructing a rainscreen apparatus substantially as herein described
30 with reference to any one of the embodiments of the invention illustrated in the accompanying drawings and/or examples.